

WHAT IS CLAIMED IS:

1. A head clamping apparatus for a magnetic disk tester which tests the electromagnetic transducing characteristics of at least one of a magnetic disk and magnetic head, the head clamping apparatus rotating the magnetic disk having a plurality of concentric tracks and positioning the magnetic head onto a target one of the tracks, and the head clamping apparatus comprising

a microstage supporting the magnetic head and being moved by a microactuator in a direction crossing the tracks.

2. The head clamping apparatus of claim 1, wherein:

the microstage has a base attached to the head clamping apparatus, a stage to hold the magnetic head through a head attachment, and two resilient pieces connecting the base to the stage, the base, stage, and resilient pieces forming a parallel plate spring mechanism;

- the base has a support protruding toward the stage between the resilient pieces; and

the microactuator is arranged between the support and one of the resilient pieces.

3. The head clamping apparatus of claims 1 or 2, wherein a front end face of the stage has a cut to divert an external force applied to the stage into a compressing direction of the microactuator.

4. A magnetic disk tester comprising:

- a coarse stage having a head load mechanism on which a head clamp is installed, the head clamp holding a piezo-stage which holds a magnetic head assembly, a reflective scale made of a film being disposed on a back face of the piezo-stage, and light-shield stripes being deposited on the film at regular intervals;

- a laser head attached to the coarse stage having a light emission/reception part facing the light-shield stripes of the reflective scale; and

09937007-111301

positioning means for controlling the position of the head clamp,

the laser head emitting a laser beam, the reflective scale reflecting the emitted laser beam, the positioning means detecting the position of the magnetic head assembly on a magnetic disk according to the reflected laser beam and controlling the position of the head clamp according to an error signal which indicates the difference between the detected position and a reference position.

5. The magnetic disk tester of claim 4, wherein:

the positioning means has a precise positioning mode and a tracking mode;

the precise positioning mode controls the magnetic head assembly according to the position of the coarse stage and the position of the magnetic head assembly detected from the reflected laser beam; and

the tracking mode reads servo burst signal recorded on the magnetic disk prior to data signal recorded thereon and controls the position of the magnetic head assembly according to a position error signal generated according to the amplitude of the servo burst signal.

6. The magnetic disk tester of claims 4 or 5, wherein:

information from the reflective scale is entered into counting means, an output of the counting means is used to carry out a track-to-track seek operation, and when it is determined that the magnetic head assembly is positioned on a target track, the precise positioning mode is changed to the tracking mode; and

information based on the amplitude of the servo burst signal is used to carry out one of on-track control and off-track control of the magnetic head assembly with respect to a center of the target track.

7. A head clamping apparatus for a magnetic disk tester, movably supported by a linear coarse stage and comprising:

a linear micromotion stage attached to a head clamp and configured to hold and move a magnetic head assembly in a direction crossing a moving direction of the

coarse stage;

a reflective scale attached to a back face of the micromotion stage, having light-shield stripes formed at regular intervals;

5 a laser head attached to the coarse stage and having a light emission/reception part facing the light-shield stripes of the reflective scale; and

positioning means configured to control the position of the head clamp,

10 the reflective scale reflecting a laser beam emitted from the laser head, the positioning means detecting the position of the magnetic head assembly on a magnetic disk according to the reflected laser beam and controlling the position of the head clamp according to an error signal which indicates the difference between the detected position and a reference position.

FOEFF-20028660